

***POINT REYES CLOUD-BBHRP RETRIEVAL ALGORITHM  
INTERCOMPARISON PROJECT***

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**ABSTRACT**

Middle and low-level clouds have a global mean fractional cloud cover greater than 60%. A subset of these clouds have liquid water paths (LWP) less than  $100 \text{ g m}^{-2}$  cover 20-25% of the globe. The frequency of these Clouds with Low Optical Water Depths (CLOUDs) have important impacts on the global energy budget and due to their optical and often physical thinness, pose unique challenges for both modeling and retrieving their microphysical properties. We present the second in a series of intercomparisons of retrieval algorithms of low LWP clouds. The first intercomparison examined several overcast cases observed over the ARM Climate Research Facility (ACRF) Southern Great Plains site (Turner et al., 2007). This second intercomparison greatly enhances the statistical comparison by examining a month-long dataset of overcast, single-layer, low-level stratus clouds observed during the Point Reyes deployment of the ARM Mobile Facility. We present results of this intercomparison in the form of surface and top-of-atmosphere radiative flux closure experiments as computed by the Broadband-Heating Rate Profiles (BBHRP) project. Results from five different retrieval algorithms will be discussed. Turner DD, A Vogelmann, RT Austin, JC Barnard, K Cady-Pereira, JC Chiu, SA Clough, C Flynn, MM Khaiyer, J Liljegren, K Johnson, B Lin, C Long, A Marshak, SY Matrosov, SA McFarlane, M Miller, Q Min, P Minnis, W O'Hirok, Z Wang, and W Wiscombe. 2007. "Thin Liquid Water Clouds: Their Importance and Our Challenge." *Bulletin of the American Meteorological Society*, 88, 177-190.

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